

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

Fig. 1 has been amended to include a label of related art and, thereby, overcome the applied objection.

The specification has been amended to include section headings, so as to overcome the applied objection. No new matter is believed to be introduced by the amendments to the specification.

Claims 1-37 have been canceled in favor of new claims 38-68. Support for the subject matter of the new claims is provided for example in the original claims, Figs. 5-7, and pages 8 and 9 of the specification. (References herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.)

Claims 1-3, 5, 6, 11, 12, 19-23, 26, 31, 32, 34, 35, and 37 were rejected, under 35 USC §102(e), as being anticipated by Hakenberg et al. (US 6,792,470). Claims 7-9 and 27 were rejected, under 35 USC §103(a), as being unpatentable over Hakenberg in view of the Applicants' Description of the Related Art. Claims 4, 24, and 36 were rejected, under 35 USC §103(a), as being unpatentable over Hakenberg in view of Mustafa (US 2002/0087716). Claims 10, 13-18, 28-30, and 33 were rejected, under 35 USC §103(a), as being unpatentable over Hakenberg in view of the Applicants' Description of the Related Art and Love (US 6,148,208). To the extent that these rejections may be deemed applicable to new claims 38-68, the Applicants respectfully traverse based on the points set forth below.

Claim 38 defines a method of determining feedback in a communication system. According to this method, transmission data has data entities of different levels of importance and individual groups of the transmission data are transmitted in the form of multi-level modulation symbols, such that bits of a respective data entity within each group of bits are mapped to a hierarchical part of a multi-level modulation. Based on this special transmission format, the receiving apparatus determines for which data entities, of the received data, feedback should be provided based on: (1) a decision of which data entities are required and which data entities are optional to satisfy a Quality of Service (QoS) criterion and (2) the hierarchical parts of the respective multi-modulation symbols that correspond to the data entities required to satisfy the QoS criterion. Accordingly, feedback is transmitted for those data entities for which feedback should be provided, thereby satisfying the QoS requirement. The claimed subject matter provides an advantage of decreasing the amount of feedback and improving throughput efficiency (see the specification at page 2, last paragraph).

The Applicant's claim 38 differs from Hakenberg in that claim 38 recites a hierarchical multi-level modulation scheme having respective hierarchical parts within each multi-level modulation symbol to which bits of data entities are mapped. Also, the feedback of claim 38 is based on the individual hierarchical parts of the respective multi-level modulation symbols that correspond to data entities required to satisfy the QoS criterion, and for which feedback is provided. Hence, for feedback, only those hierarchical parts of the respective multi-level modulation symbols are evaluated that correspond to the data entities required to satisfy the QoS criterion and for which feedback should be provided. It is noted that Hakenberg, the Applicants' Description of the Related Art, Mustafa, and Love do not teach or suggest this subject matter.

Accordingly, the Applicants submit that the teachings of Hakenberg, the Applicants' Description of the Related Art, Mustafa and Love, considered individually or in combination, do not anticipate or render obvious the subject matter now defined by claim 38. Independent claims 54 and 56 similarly recite the above-mentioned subject matter, as applied to a receiving apparatus and a transmitting apparatus, respectively, distinguishing method claim 38 from the applied references. Therefore, allowance of claims 38, 54, and 56 and all claims dependent therefrom is considered to be warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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JEL/DWW/att

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